

Hints for generating the trig equation from the given conditions:

To generate equations of the form:

$Y = A \sin B(x + C) + D$	or	$Y = A \cos B(x + C) + D$
---------------------------	-----------	---------------------------

1. Choose **sin** or **cos** function according to the initial condition of the given task.
 - a) If the Maximum value of a function corresponds to the initial situation ($x = 0$), then choose **cos** function.
 - b) If the Minimum value of a function corresponds to the initial situation ($x = 0$), then choose **– cos** function.
 - c) If Zero value of a function corresponds to the initial situation ($x = 0$), then choose **sin** function.
 - d) If Min, Max, or Zero value occurs before or after the initial situation, then **X-shift** should be applied.
2. If the Minimum and Maximum value of a function is given, figure out the **Amplitude** and **Y-shift** using the formulae:

$$A = \frac{\text{max} - \text{min}}{2}$$

$$D = \frac{\text{max} + \text{min}}{2}$$

3.
 - a) If the period (**T**) is given, then calculate the frequency coefficient as $B = \frac{2\pi}{T}$
 - b) If the frequency coefficient (**B**) is given, then calculate the period as $T = \frac{2\pi}{B}$